

RULE 63 (37 C.F.R. 1.63)
DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

COLLOIDAL PHOTONIC CRYSTALS

the specification of which (check applicable box(es)):

☐ is attached hereto
☐ was filed on _____ as U.S. Application Serial No. _____ Atty Dkt. No. _____
☒ was filed as PCT International application No. PCT/GB00/03405 on 05/09/00
and (if applicable to U.S. or PCT application) was amended on 26/11/01

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed or, if no priority is claimed, before the filing date of this application:

Priority Foreign Application(s):

Application Number	Country	Day/Month/Year Filed
9921048.6	GB	07/09/9

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

Application Number	Date/Month/Year Filed
--------------------	-----------------------

I hereby claim the benefit under 35 U.S.C. 120/365 of all prior United States and PCT international applications listed above or below and, insofar as the subject matter of each of the claims of this application is not disclosed in such prior applications in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. 1.56 which occurred between the filing date of the prior applications and the national or PCT international filing date of this application:

Prior U.S./PCT Application(s):

Application Serial No.	Day/Month/Year Filed	Status: patente pending, abandone
PCT/GB00/03405	05/09/00	PENDIN

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. And I hereby appoint **NIXON & VANDERHYE P.C., 1100 North Glebe Rd., 8th Floor, Arlington, VA 22201-4714, telephone number (703) 816-4000 (to whom all communications are to be directed)**, and the following attorneys thereof (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent: Arthur R. Crawford, 25327; Larry S. Nixon, 25640; Robert A. Vanderhye, 27076; James T. Hosmer 30184; Robert W. Faris, 31352; Richard G. Besh, 22770; Mark E. Nusbaum, 32348; Michael J. Keenan, 32106; Bryan H. Davidson, 30251; Stanley C. Spooner, 27393; Leonard C. Mitchard, 29009; Duane M. Byers, 33363; Jeffry H. Nelson, 30481; John R. Lastova, 33149; H. Warren Burnam, Jr. 29366; Thomas E. Byrne, 32205; Mary J. Wilson, 32955; J. Scott Davidson, 33489; Alan M. Kagen, 36178; William J. Griffin, 31260; Robert A. Molan, 29834; B. J. Sadoff, 36663; James D. Berquist, 34776; Updeep S. Gill, 37334; Michael J. Shea, 34725; Donald L. Jackson, 41090; Michelle N. Lester, 32331.*

1.	Inventor's Signature: <u><i>Richard Amos</i></u>	Date: <u>14th March 2002</u>
	Inventor: <u>Richard</u> <u>M</u> <u>AMOS</u> (first) (MI) (last) (citizenship)	
	Residence: (city) <u>QinetiQ Malvern</u> (state/country) <u>GB</u>	
	Post Office Address: <u>St Andrews Road, Malvern Worcs</u> (Zip Code) <u>WR14 3PS</u>	
2.	Inventor's Signature: <u><i>Paul Tapster</i></u>	Date: <u>19th March 2002</u>
	Inventor: <u>Paul</u> <u>R</u> <u>TAPSTER</u> (first) (MI) (last) (citizenship)	
	Residence: (city) <u>QinetiQ Malvern</u> (state/country) <u>GB</u>	
	Post Office Address: <u>St Andrews Road, Malvern Worcs</u> (Zip Code) <u>WR14 3PS</u>	

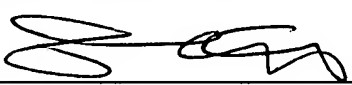
FOR ADDITIONAL INVENTORS, check box ☒ and attach sheet with same information and signature and date for each.

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FOR PATENT APPLICATION

Nixon & Vanderhye P.C. (12/95)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Page 2

3. Inventor's Signature: 

Inventor: _____

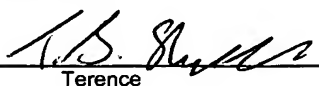
John (first) G (last) RARITY (last)

MI (state/country) GB (citizenship)

Residence: (city) QinetiQ Malvern

Post Office Address: St Andrews Road, Malvern Worcs

(Zip Code) WR14 3PS

Date: 26th March 2002
4. Inventor's Signature: 

Inventor: _____

Terence (first) J (last) SHEPHERD (last)

MI (state/country) GB (citizenship)

Residence: (city) QinetiQ Malvern

Post Office Address: St Andrews Road, Malvern Worcs

(Zip Code) WR14 3PS

Date: 19th March 2002
5. Inventor's Signature: _____

Inventor: _____

Stephen (first) C (last) KITSON (last)

MI (state/country) GB (citizenship)

Residence: (city) Bristol

Post Office Address: Hewlett Packard HP Labs, Pitton Road, Stoke Cifford, Bristol

(Zip Code) BS34 8Q2

Date: _____
6. Inventor's Signature: _____

Inventor: _____

(first) MI (last)

(state/country) (citizenship)

Residence: (city) _____

Post Office Address: _____

(Zip Code) _____

Date: _____
7. Inventor's Signature: _____

Inventor: _____

(first) MI (last)

(state/country) (citizenship)

Residence: (city) _____

Post Office Address: _____

(Zip Code) _____

Date: _____
8. Inventor's Signature: _____

Inventor: _____

(first) MI (last)

(state/country) (citizenship)

Residence: (city) _____

Post Office Address: _____

(Zip Code) _____

Date: _____
9. Inventor's Signature: _____

Inventor: _____

(first) MI (last)

(state/country) (citizenship)

Residence: (city) _____

Post Office Address: _____

(Zip Code) _____

Date: _____
10. Inventor's Signature: _____

Inventor: _____

(first) MI (last)

(state/country) (citizenship)

Residence: (city) _____

Post Office Address: _____

(Zip Code) _____

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Page 2

3. Inventor's Signature: _____ Date: _____
Inventor: John G RARITY GB
(first) MI (last) (citizenship)
Residence: (city) QinetiQ Malvern (state/country) GB
Post Office Address: St Andrews Road, Malvern Worcs
(Zip Code) WR14 3PS
4. Inventor's Signature: _____ Date: _____
Inventor: Terence J SHEPHERD GB
(first) MI (last) (citizenship)
Residence: (city) QinetiQ Malvern (state/country) GB
Post Office Address: St Andrews Road, Malvern Worcs
(Zip Code) WR14 3PS
5. Inventor's Signature: *S. Kitson* Date: 9/04/02
Inventor: Stephen C KITSON GB
(first) MI (last) (citizenship)
Residence: (city) Bristol (state/country) GB
Post Office Address: Hewlett Packard Labs, Filton Road, Stoke Gifford, Bristol
(Zip Code) BS34 8QZ
6. Inventor's Signature: _____ Date: _____
Inventor: _____
(first) MI (last) (citizenship)
Residence: (city) _____ (state/country) _____
Post Office Address: _____
(Zip Code) _____
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Inventor: _____
(first) MI (last) (citizenship)
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Inventor: _____
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☐ was filed on _____ as U.S. Application Serial No. _____ Atty Dkt. No. _____
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Prior U.S./PCT Application(s):

Application Serial No.

Day/Month/Year Filed

Status: patented
pending, abandoned

PCT/GB00/03405	05/09/00	PENDING
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. And I hereby appoint **NIXON & VANDERHYE P.C., 1100 North Glebe Rd., 8th Floor, Arlington, VA 22201-4714, telephone number (703) 816-4000 (to whom all communications are to be directed)**, and the following attorneys thereof (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent: Arthur R. Crawford, 25327; Larry S. Nixon, 25640; Robert A. Vanderhye, 27076; James T. Hosmer, 30184; Robert W. Faris, 31352; Richard G. Besha, 22770; Mark E. Nusbaum, 32348; Michael J. Keenan, 32106; Bryan H. Davidson, 30251; Stanley C. Spooner, 27393; Leonard C. Mitchard, 29009; Duane M. Byers, 33363; Jeffry H. Nelson, 30481; John R. Lastova, 33149; H. Warren Burnam, Jr. 29366; Thomas E. Byrne, 32205; Mary J. Wilson, 32955; J. Scott Davidson, 33489; Alan M. Kagen, 36178; William J. Griffin, 31260; Robert A. Molan, 29834; B. J. Sadoff, 36663; James D. Berquist, 34776; Updeep S. Gill, 37334; Michael J. Shea, 34725; Donald L. Jackson, 41090; Michelle N. Lester, 32331.*

1.	Inventor's Signature:		Date:	
	Inventor:	Richard M AMOS GB - (first) MI (last) (citizenship)		
	Residence: (city)	QinetiQ Malvern (state/country) GB		
	Post Office Address:	St Andrews Road, Malvern Worcs		
	(Zip Code)	WR14 3PS		
2.	Inventor's Signature:		Date:	
	Inventor:	Paul R TAPSTER GB (first) MI (last) (citizenship)		
	Residence: (city)	QinetiQ Malvern (state/country) GB		
	Post Office Address:	St Andrews Road, Malvern Worcs		
	(Zip Code)	WR14 3PS		

FOR ADDITIONAL INVENTORS, check box ☒ and attach sheet with same information and signature and date for each.

RECORDATION FORM COVER SHEET

PATENTS ONLY

Our Ref.: 124-929

Commissioner of Patents and Trademarks
Box Assignment, Washington, D.C. 20231

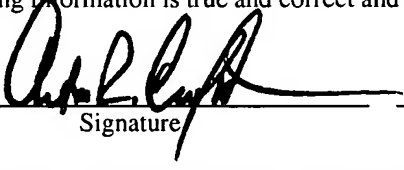
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies): Richard Michael Amos Stephen Christopher Kitson John Gilroy Rarity Paul Richard Tapster Terence John Shepherd</p> <p>Additional name/s of conveying party/ies attached? <input type="checkbox"/></p> <p>3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Assignment <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____</p> <p>Execution Date: <u>April 17, 16, 18, 16 and 9, 2002</u></p>	<p>2. Name and address of receiving party(ies):</p> <p>Name: QINETIQ LIMITED Internal Address: Street Address: Cody Technology Park Ively Road</p> <p>City: Farnborough, Hants State/Country: United Kingdom Zip: GU14 0LX</p> <p>Additional name/s & address/es attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	--

<p>4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: _____</p> <table border="0"><tr><td style="vertical-align: top;"><p>A. Patent Application No(s). (1) 10/070,382 (2) (3)</p></td><td style="vertical-align: top;"><p>B. Patent No(s). (1) (2) (3)</p></td></tr></table> <p style="text-align: right;">Additional numbers attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>		<p>A. Patent Application No(s). (1) 10/070,382 (2) (3)</p>	<p>B. Patent No(s). (1) (2) (3)</p>
<p>A. Patent Application No(s). (1) 10/070,382 (2) (3)</p>	<p>B. Patent No(s). (1) (2) (3)</p>		

<p>5. Name and address of party to whom correspondence concerning document should be mailed:</p> <p>Name: <u>Arthur R. Crawford</u></p> <p>Internal Address: _____</p> <p>Street Address: <u>Nixon & Vanderhye P.C.</u> <u>1100 North Glebe Road</u> <u>8th Floor</u></p> <p>City: <u>Arlington</u> State: <u>VA</u> Zip: <u>22201</u></p>	<p>6. Total number of applications & patents involved: <u>1</u></p> <p>7. Total fee (37 CFR 3.41) \$ <u>40.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account #14-1140</p> <p>8. The Commissioner is hereby authorized to charge any <u>deficiency</u>, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper thereafter filed in this application by this firm) to our Account No. 14-1140.</p>
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DO NOT USE THIS SPACE

<p>9. Statements and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</p>		
<p><u>Arthur R. Crawford</u> Name of Person Signing Reg. No. 25,327</p>	<p> Signature</p>	<p><u>May 7, 2002</u> Date</p>
<p>Total number of pages including original cover sheet, attachments, and document: [5]</p>		

ARC:pfc

05/10/2002 MAL111 00000070 10070382

01 FC:581

40.00 OP

ASSIGNMENT OF PATENT APPLICATION

(Inventors) (Richard Michael AMOS
(John Gilroy RARITY
(Paul Richard TAPSTER
(Terence John SHEPHERD
(Stephen Christopher KITSON
(
In consideration of past and future employment, and my (our) obligation to assign intellectual property generated as result of my (our) employment, the receipt and sufficiency of which consideration is hereby acknowledged, the undersigned agree(s) to assign, and hereby does assign, transfer and set over to
(Assignee) (QINETIQ LIMITED
(Address) (of Cody Technology Park Ively Road, Farnborough, Hants GU14 0LX
(hereinafter designated as the Assignee) the undersigned's entire right, title and interest for the United States, its territories, dependencies and possessions, and for the country of
(Other Countries) (in the invention, and all application for patent and any Letters
(Title) Patent which may be granted therefore, known as
COLLOIDAL PHOTONIC CRYSTALS (Case No. P2856/USW)
for which the undersigned has (have) executed on even date herewith an application for patent in the United States of America or, if not on even date, then has executed (on _____ or has already filed in _____
(U.S. appln. Serial No.10/070,382 _____, filed on _____
(The undersigned acknowledges an obligation of assignment of this invention to said assignee at the time the invention was made.

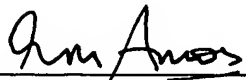
The undersigned agree(s) to execute all papers and documents necessary in connection with the application or any interference which may be declared and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient and further to perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

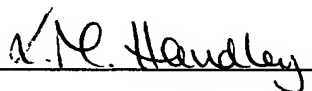
The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

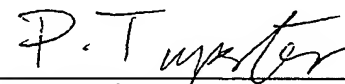
The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from said application or any division or divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute, any agreement in conflict herewith.

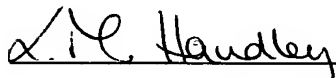
The undersigned hereby grant(s) the firm of NIXON & VANDERHYE P.C. the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned signature(s).

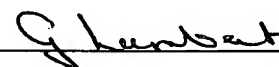
Signature of Inventor  Date 17th April 2002
R M AMOS


Witnessed by  Date 17th April 2002

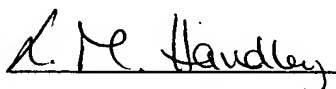
Signature of Inventor  Date 16th April 2002
P R TAPSTER

Witnessed by  Date 16th April 2002

Signature of Inventor  Date 18th April 2002
T J SHEPHERD

Witnessed by  Date 18th April 2002

Signature of Inventor  Date 16th April - 2002
J G RARITY

Witnessed by  Date 16th April 2002

Signature of Inventor _____ Date _____
S C KITSON

Witnessed by _____ Date _____

Signature of Inventor _____ Date _____

Witnessed by _____ Date _____



IPD/P2856/USW

ASSIGNMENT OF PATENT APPLICATION

(Inventors) (Richard Michael AMOS
(John Gilroy RARITY
(Paul Richard TAPSTER
(Terence John SHEPHERD
(Stephen Christopher KITSON
(
In consideration of past and future employment, and my (our) obligation to assign intellectual property generated as result of my (our) employment, the receipt and sufficiency of which consideration is hereby acknowledged, the undersigned agree(s) to assign, and hereby does assign, transfer and set over to
(Assignee) (QINETIQ LIMITED
(Address) (of Cody Technology Park Ively Road, Farnborough, Hants GU14 0LX
(hereinafter designated as the Assignee) the undersigned's entire right, title and interest for the United States, its territories, dependencies and possessions, and for the country of
(Other Countries) (in the invention, and all application for patent and any Letters Patent which may be granted therefore, known as
(Title) COLLOIDAL PHOTONIC CRYSTALS (Case No. P2856/USW)
for which the undersigned has (have) executed on even date herewith an application for patent in the United States of America or, if not on even date, then has executed (on _____ or has already filed in _____
(U.S. appln. Serial No. 10/070,382, filed on _____
(The undersigned acknowledges an obligation of assignment of this invention to said assignee at the time the invention was made.

The undersigned agree(s) to execute all papers and documents necessary in connection with the application or any interference which may be declared and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient and further to perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from said application or any division or divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the firm of NIXON & VANDERHYTE P.C. the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned signature(s).

Signature of Inventor

R M AMOS

Date

Witnessed by

Date

Signature of Inventor

P R TAPSTER

Date

Witnessed by

Date

Signature of Inventor

T J SHEPHERD

Date

Witnessed by

Date

Signature of Inventor

J G RARITY

Date

Witnessed by

Date

Signature of Inventor

S. Kitson
S C KITSON

Date

9/04/02

Witnessed by

B. C. Pugh

Date

9/04/02

Signature of Inventor

Date

Witnessed by

Date